

6. First Account of Species of Tailless Batrachians added to the Collection of the British Museum. By Dr. A. GÜNTHER, F.R.S., F.Z.S.

(Plates XXXVII., XXXVIII., XXXIX., XL.)

AFTER the arrangement of the collection of Tailless Batrachians had been completed (in 1858), particular attention was paid to the acquisition of such species as were desiderata. A considerable number of specimens were received into the collection, illustrative of the development, sex, variation, and geographical distribution of species hitherto incompletely represented in the collection. It is not my object to refer to these specimens in this paper, but I shall confine myself to an enumeration of those which were entirely wanting in the collection, or which, since the time mentioned, have been described as new.

The number of species contained in the collection at the time of the publication of the 'Catalogue of Batrachia salientia' was 214; this is now increased to 313*, the number of typical specimens amounting to 125.

I. *List of species acquired which were previously desiderata.*

DACTYLETHRA MUELLERI (Ptrs.). Ten examples from various localities.

RANA FUSCA (Blyth). Tennasserim. Mr. Theobald.

RANA MONTEZUMÆ (Baird). Mexico. Hr. Doorman.

GOMPHOBATES KRÖYERI (Rnhrdt.). —? C. Darwin, Esq.

GOMPHOBATES NOTATUS (Rnhrdt. & Lüt.). Lagoa Santa. Copenhagen Museum.

PYXICEPHALUS EDULIS (Ptrs.). Mozambique. Prof. Peters.

CYSTIGNATHUS MACROGLOSSUS (D. & B.). Montevideo. Purchased.

CRINIA VERRUCOSA (Rnhrdt. & Ltk.). Australia. Earl of Derby.

CRINIA FASCIATA (Steind.). East and West Australia. G. Krefft, Esq.

LIMNODYNASTES DUMERILII (Ptrs.). Adelaide. G. Krefft, Esq.

TARSOPTERUS TRACHYSTOMUS (Rnhrdt. & Lüt.). Lagoa Santa. Copenhagen Museum.

LIOPELMA HOCHSTETTERI (Fitz.). New Zealand. Sir A. Smith.

* The second richest collection of Tailless Batrachians is in the Paris Museum, which contained 187 species in 1865, according to a statement of Prof. Duméril, *Nouv. Arch. Mus. d'Hist. Nat.* 1865, vol. i. p. 47.



4.



3a



3



1.



1a



2

1 *Cystignathus rhodonotus* 2 *Bufo glaberrimus*.
3 *Ixalus opisthorhynchus* 4 *Hyla rhodopus*.



5.

5a



2.



4.



3.



1.



1 *Glyphoglossus molossus*. 2. *Hyla dasynotus*.

3. *Hylodes sallæi*. 4 *Hyla triangulum*.

5. *Cacotus maculatus*

G.H. Ford.

W. West imp.



1.



4.

3.



2.

1. *Polypedates cavirostris*. 2. *Polypedates nasutus*.
3. *Polypedates nanus*. 4. *Ixalus macropus*.

4.



3.

2.



1.



1 *Callula guttulata* 2 *Rappia lagoensis*
3. *Hyla rubicundula* 4 *Hyla leucostania*

- PHRYNISCUS VARIUS (Stannius). Costa Rica. Prof. Peters.
 ATELOPUS FLAVESCENS (D. & B.). Chyavetas. Mr. Bartlett.
 DIPLOPELMA BERDMORII (Blyth). Pegu. Mr. Theobald.
 BUFO GYMNAUCHEN (Blkr.). Bintang. Dr. Bleeker.
 PSEUDOBUFO SUBASPER (Blkr.). East-Indian archipelago. Dr. Bleeker.
 HYLORANA MACULARIA (Blyth). Ceylon and Pegu. Purchased.
 POLYPEDATES LIVIDUS (? Blyth). Pegu. Mr. Theobald.
 IXALUS GLANDULOSUS (? Jerdon). Nilgherries. Mr. Theobald.
 RAPPIA STEINDACHNERI (Bocage). Old Calabar. Purchased.
 RAPPIA FULVO-VITTATA (Cope). Angola. Dr. Bocage.
 RAPPIA FUSCIGULA (Bocage). Sierra Leone. J. C. Salmon, Esq.
 RAPPIA FORNASINII (Bianconi). Twelve examples from various sources.
 RAPPIA TÆNIATA (Ptrs.). Zambeze. Livingstone expedition.
 RAPPIA SALINÆ (Bianconi). Zambeze. Livingstone expedition.
 RAPPIA ARGUS (Ptrs.). Zambeze. Livingstone expedition.
 RAPPIA INSIGNIS (Bocage). Benguella. Dr. Bocage.
 RAPPIA MARGINATA (Ptrs.). West Africa. Purchased.
 HYLAMBATES MARMORATUS (Dum.). Six examples from various sources.
 PHYLLOBATES ELEGANS†. Bogota. Purchased.
 HYLODES BOGOTENSIS (Ptrs.). Bogota. Prof. Peters.
 POHLIA PALMIPES (Steindachner). Pebas. Mr. Hauxwell.
 HYLA PUNCTATA (Schn.). Bahia and Surinam. Dr. Wucherer.
 HYLA LEVAILLANTII (D. & B.). Surinam. Hr. Kappler.
 HYLA CAPISTRATA (Reuss). Brazil. Purchased.
 HYLA MORELETHI (Dum.). Guatemala. O. Salvin, Esq.
 HYLA CITROPUS (Péron & Les.). New South Wales. G. Krefft, Esq.
 HYLA LABIALIS (Ptrs.). Bogota. Purchased.
 *HYLA RUBICUNDULA (Rnh. & Ltk.). Brazil. Dr. Gardiner.
 *CALLULA GUTTULATA (Blyth). Pegu. Mr. Theobald.

II. *List of the new species acquired from 1859 to 1868.*

- MIXOPHYES FASCIOLATUS. Clarence River. G. Krefft, Esq.
 DICROGLOSSUS ADOLFI. Himalayas. Messrs. v. Schlagintweit.
 PYXICEPHALUS RUGOSUS. Pundo Andongo. Dr. Welwitsch.

† An = *Liuperus elegans*, Ptrs.?

RANA LIEBIGII. Nepal, Sikkim. B. H. Hodgson, Esq., and Messrs. v. Schlagintweit.

CYSTIGNATHUS ALBILABRIS. St. Thomas. Hr. Riise.

**CYSTIGNATHUS RHODONOTUS*. Chyavetas. Mr. Bartlett.

CRINIA TASMANIENSIS. Van Diemen's Land. Purchased.

CRINIA LÆVIS. Van Diemen's Land. Mr. Milligan.

CRINIA AFFINIS. West Australia. Hr. Dämel.

PLATYPLECTRUM MARMORATUM. Clarence River. G. Krefft, Esq.

LIMNODYNASTES PLATYCEPHALUS. Adelaide. G. Krefft, Esq.

LIMNODYNASTES KREFFTII. Sixteen examples from various sources.

LIMNODYNASTES AFFINIS. Clarence River. G. Krefft, Esq.

CHIROLEPTES ALBOGUTTATUS. North Australia. Hr. Dämel.

CRYPTOTIS BREVIS. Clarence River. G. Krefft, Esq.

XENOPHRYS MONTICOLA. Himalayas and Pegu. Three examples.

**NANNOPHRYS CEYLONENSIS*. Ceylon. Mr. Higgins.

**CACOTUS MACULATUS*. Chili. Purchased.

**GLYPHOGLOSSUS MOLOSSUS*. Pegu. Mr. Theobald.

CACOPUS GLOBULOSUS. Russelconda. Dr. Trail.

**BUFO GLABERRIMUS*. Bogota. Purchased.

BUFO CÆRULEOSTICTUS. West Ecnador. Mr. Fraser.

BUFO GALEATUS. Gamboja. M. Mouhot.

HYLORANA TEMPORALIS. Ceylon. Purchased.

IXALUS FEMORALIS. Ceylon. Purchased.

IXALUS TEMPORALIS. Ceylon. Purchased.

**IXALUS MACROPUS*. Ceylon. Purchased.

**IXALUS NASUTUS*. Ceylon. Purchased.

**IXALUS OPISTHORHODUS*. Nilgherries. Mr. Theobald.

**MEGALIXALUS INFRARUFUS*. —? Dr. Günther.

**POLYPEDATES NANUS*. South Ceylon. Purchased.

POLYPEDATES PLEUROSTICTUS. Madras. Zoological Society.

POLYPEDATES RETICULATUS. Ceylon. Purchased.

**POLYPEDATES NASUTUS*. Ceylon. Purchased.

**POLYPEDATES CAVIROSTRIS*. Ceylon. Purchased.

**POLYPEDATES RUFESCENS*. West Africa. Purchased.

RAPPIA RETICULATA. —?

**RAPPIA LAGOENSIS*. Lagos. H. T. Ussher, Esq.

RAPPIA CITRINA. Senegal and Zambeze. Messrs. Whitfield and Livingstone.

RAPPIA FLAVOMACULATA. Rovuma Bay. Livingstone expedition.

RAPPIA MICRIPS. Zambeze. Livingstone expedition.

RAPPIA NASUTA. Angola. Dr. Bocage.

**HYLAMBATES VIRIDIS*. West Africa. Purchased.

HYLODES UNISTRIGATUS. West Ecuador and Bolivia. Mr. Fraser.

**HYLODES SALLÆI*. Central America. Messrs. Sallé and Salvin.

PLATYMANTIS PLATYDACTYLA. Polynesia. 'Voyage of the Herald.'

LITORIA WILCOXII. Ten examples from various parts of East Australia.

LITORIA LATOPALMATA. Port Denison. G. Krefft, Esq.

HYLA INFRAFRENATA. Cape York. Hr. Dämel.

HYLA NIGROFRENATA. Cape York. Hr. Dämel.

HYLA PHYLLOCHROA. Sydney and Erumanga. Purchased.

HYLA KREFFTII. Nine examples from various parts of East Australia.

**HYLA DASYNOTUS*. Brazil. Dr. A. Günther.

**HYLA TRIANGULUM*. Brazil. Dr. A. Günther.

**HYLA RHODOPORUS*. Upper Amazons. Mr. Bartlett.

**HYLA LEUCOTÆNIA*. Rio Grande. Purchased.

CALLULA OBSCURA. Ceylon and Nilgherries. Sir A. Smith and Mr. Theobald.

Most of the species forming the second list have been already described in the 'Proceedings' of this Society, the Ann. & Mag. Nat. Hist., or the 'Reptiles of British India.' I subjoin descriptions of and remarks upon those marked with an asterisk (*).

CYSTIGNATHUS RHODONOTUS. (Plate XXXVII. fig. 1.)

This species is allied to *Cystignathus nodosus*, having likewise the subarticular enlargements on the fingers and particularly on the toes much developed and pointed. Rather stout in habit. Head broad; cleft of the mouth very much broader than long; snout obtusely rounded, a little longer than the eye, with the canthus rostralis obtuse. Tympanum very distinct, half as large as the eye. Vomerine teeth in two slightly arched series, the lateral portion of which is situated behind the choanæ. Limbs rather short; first finger considerably longer than second, but a little shorter than third. The length of the body is rather more than the distance of the vent from the two small metatarsal tubercles. The fourth toe half as long as the body; third toe a little longer than fifth.

Brown: a broad rose-coloured band occupies the whole back from

the nostril to the sacrum. Limbs with brownish-black cross bands; the interspaces tinged with pink. Lower parts greyish, with numerous small white specks.

Mr. E. Bartlett found a single specimen of this species at Chyvetas, Eastern Peru. It is 40 millims. long, hind limb 58, fourth toe 19 millims.

NANNOPHRYS, g. n. ASTEROPHRYS.

Fingers and toes tapering, free to the base; lower jaw with a pair of very slightly prominent apophyses in front and with a pointed symphyseal tubercle; the internal openings of the nostrils and eustachian tubes small; tympanum of moderate size, distinct. No parotoids. The transverse processes of the sacral vertebra dilated into a flat triangle. Vomer with two very inconspicuous prominences on which no teeth can be distinguished. Tongue deeply forked behind. Upper eyelid flaccid, without prominent edge.

NANNOPHRYS CEYLONENSIS.

Similar in habit to a young *Rana kuhlii*. Head broad, depressed, short, the snout being as long as the diameter of the eye: canthus rostralis distinct; loreal region sloping; nostril close to the end of the snout. Eye of moderate size, prominent. Tympanum half as large as the eye. A lineal fold runs from the hinder edge of the orbit, over the tympanum, towards the arm-pit. Cleft of the mouth broader than long; tongue rather narrow. The vomerine prominences are situated on a level with the hinder edge of the choanæ. Skin slightly tubercular; an indistinct fold across the crown of the head from one hinder angle of the orbit to the other. Limbs of moderate length, the length of the body being rather more than the distance of the vent from the heel. The third finger rather longer than the fourth, which is scarcely longer than the second. Metatarsus with one inconspicuous tubercle. The fourth toe is not quite half as long as the body; the third is a little longer than the fifth.

Upper parts brown, marbled with darker; limbs with dark cross bands. Upper lip with some small white spots; a pair of white spots below the vent. Lower parts whitish.

I have examined four examples from Ceylon, probably from the southern parts. They are 25 millims. long, the hind limb being 37 millims.; but I have reason to believe that the species grows to a larger size.

CACOTUS, g. n. BOMBINATORIN.

Fingers and toes tapering. Maxillary and vomerine teeth distinct. Tongue broad, slightly notched behind. Toes quite free; metatarsus with two tubercles. Tympanum absent; eustachian tubes reduced to a minute foramen. Transverse processes of sacral vertebra not dilated.

CACOTUS MACULATUS. (Plate XXXVIII. fig. 5.)

Similar in habit to *Pleurodema bibronii*. Head of moderate width.

Snout rather short, scarcely longer than the diameter of the eye; canthus rostralis rather obtuse, with the loreal region sloping. The slight vomerine prominences form two short transverse prominences between the choanæ, which are very small. Skin nearly smooth or with very small flat smooth tubercles. The length of the body equals the distance between the vent and the metatarsal tubercles. Sub-articular tubercles on the fingers and toes well developed; metatarsus with two tubercles. Length of the fourth toe two-fifths of that of the body; third and fifth toes equal in length.

Greenish olive above, marbled with brownish and sometimes with minute pink dots; an obsolete dark band across the forehead from one eye to the other, a black band along the canthus rostralis and from the eye to the arm-pit. Limbs with black cross bands. Throat and abdomen whitish, marbled with blackish.

I have examined two specimens purchased of Mr. Stevens, who states that they came from Chile. They are 33 millims. long, the hind limb being 48, and the fourth toe 14 millims. long.

GLYPHOGLOSSUS, g. n. RHINODERMAT.

This genus is closely allied to *Cacopus*, which it also greatly resembles in general appearance, differing, however, in the shape of the tongue and in the structure of the vomer.

Head very short, crown convex; mouth transverse, very narrow; limbs short; eye small. The space between and behind the inner nostrils is even, without papillæ; one papilla in the median line of the hinder part of the palate. Tongue long, free, and notched behind and in front, divided into two lateral halves by a deep groove. Tympanum hidden; openings of the eustachian tubes small. Toes broadly webbed; metatarsus with a large, compressed, cutting, shovel-like prominence.

GLYPHOGLOSSUS MOLOSSUS. (Plate XXXVIII. fig. 1.)

Snout very short, without canthus rostralis. The fleshy part of the lower jaw is swollen, truncated in front, forming a semicircular disk. The whole snout is covered by a leathery finely granular skin. Body short and thick; limbs very short; skin in the loins broad and loose. Pupil of the eye vertical. Skin smooth. There is another, very small tubercle behind the large one on the metatarsus. The web between the toes extends to their extremities. Uniform brownish olive above, sides and limbs finely marbled with brown, lower parts whitish.

A single specimen, 50 millims. long, has been obtained by Mr. Theobald in Pegu.

BUFO GLABERRIMUS. (Plate XXXVII. fig. 2.)

Body perfectly smooth, with very few slight tubercles on the side. Crown of the head flat, without ridges. Parotoid very distinct, ovate, its length being equal to its distance from that on the other side. Snout angular, the canthus rostralis being distinct. The

diameter of the eye equals the length of the snout. Edge of the upper eyelid very sharp. Tympanum distinct, one-third of the size of the eye. Mouth broader than long. Limbs moderately developed; first finger longer than the second, and as long as the fourth. The length of the body equals the distance between the vent and the metatarsal tubercle. Toes nearly half webbed; metatarsus with one tubercle; tarsus without longitudinal fold.

Upper parts brownish black; the sides black. Lower parts blackish, with white dots. A beautiful rose-coloured spot in the groin; smaller spots of the same colour on the hinder part of the thigh.

We have received a single example from Bogota; it is 45 millims. long, the fore limb measuring 30, the hind limb 60, and the fourth toe (from the metatarsal tubercle) 18 millims.

IXALUS MACROPUS. (Plate XXXIX. fig. 4.)

Snout as long as the eye, not obtuse in front, with angular canthus rostralis. Tympanum small, inconspicuous. Skin of the upper parts with a few small scattered tubercles and some short oblique glandular folds. The length of the body is somewhat less than the distance between vent and heel. No fold of the skin along the tarsus; metatarsus with a single tubercle; the interdigital web extends to the outer phalanx of the third and fifth toes; disks of the fingers and toes moderately broad. Upper parts brown, marbled with darker; a dark band from eye to eye, limbs with dark cross bands; hinder part of the thigh brown, lower parts white, a few spots across the chest.

We have received one example from Southern Ceylon; it is 37 millims. long, the hind limb being 67 millims.

IXALUS NASUTUS.

Snout pointed, rather longer than the eye, with angular canthus rostralis. Tympanum rather small, inconspicuous, skin of the upper parts with very small scattered tubercles. The length of the body equals the distance between vent and heel. No fold of the skin along the tarsus; metatarsus with a single tubercle; web between the toes rudimentary; digital disks moderately developed. Upper parts grey clouded with darker, loreal region darker; a blackish band above the tympanum. Throat brown, abdomen with brown spots. A very fine white line runs from the tip of the nose, along the median line of the back, to the vent.

A single specimen has been received from Ceylon; it is 18 millims. long, the hind limb being 23 millims. In spite of its diminutive size, the specimen, which is a male, appears to be adult.

IXALUS OPISTHORHODUS. (Plate XXXVII. fig. 3.)

Snout longer than the eye, rather pointed in front, with angular canthus rostralis. Tympanum hidden by the skin. Skin of the upper parts smooth, with a few short oblique glandular folds. The length of the body is a little more than the distance between the vent and heel. No fold of the skin along the tarsus; metatarsus

with a single tubercle; the interdigital web is rather deeply emarginate, scarcely extending to the outer phalanx of the third and fifth toes; disks of the fingers and toes small. Brownish olive above, indistinctly clouded with darker; limbs with brown cross bands; a black transverse triangular spot across the anal region. Throat and fore part of abdomen dotted with brown; hinder part of abdomen and lower side of leg beautifully rose-coloured.

A single example from the Nilgherries has been presented to the British Museum by Mr. Theobald; it is 25 millims. long, the hind limb being 36 millims.

MEGALIXALUS, g. n. POLYPEDATID.

Vomerine teeth none. Fingers and toes webbed; none of the fingers opposed to the others. Tympanum small; eustachian tubes and inner nostrils of moderate width; tongue free and deeply notched behind. Pupil of the eye vertical. Apophyses of the sacral vertebra styliiform. Three phalanges of the fifth toe free from the fourth.

MEGALIXALUS INFRARUFUS.

Head large, broad, depressed, snout longer than the eye, with the canthus rostralis angular, and the loreal region flat, sloping. Eye large, upper eyelid free and notched behind. Tympanum extremely small. Disks of the fingers and toes well developed; outer fingers half-webbed; toes three-fourths webbed. Skin entirely smooth. Upper parts uniform green, lower rufous. Lips and upper eyelids with a white margin.

The origin of the specimen is not known; it is 65 millims. long, the length of the hind limb being 96 millims.

POLYPEDATES NANUS. (Plate XXXIX. fig. 3.)

Similar in habit to *Polypedates maculatus*. Head broad, snout short, canthus rostralis angular, loreal region flattish. Eye large, tympanum very small and indistinct. The vomerine teeth stand in two oblique series between the choanæ; in young examples (25 millims.), the teeth as well as the tooth-bearing ridges are absent; and these specimens may easily be mistaken for *Ixalus*. Upper parts with rather numerous very small tubercles; the tubercular ridge between the eyes is crossed by a very fine longitudinal glandular fold running from the nose to the occiput. Young specimens nearly entirely smooth, limbs rather slender, the length of the body being equal to the distance between vent and heel. Disks large, fingers not webbed; second finger much shorter than the fourth, which is a little shorter than the third. Toes one-third webbed; third toe shorter than fifth. Tarsus without fold, metatarsus with a very small tubercle. Brownish or greyish olive, with symmetrical dark markings on the back; sides and hind part of the thighs with brown spots; limbs with brown cross bands. Lower parts whitish, throat with small brown spots.

We have received three examples from Southern Ceylon; the
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largest is only 35 millims. long, the length of the hind limb being 60 millims.

POLYPEDATES NASUTUS. (Plate XXXIX. fig. 2.)

This species will be readily recognized by its extremely prolonged and pointed snout, which is as long as the width between the anterior angles of the orbit; in other respects it is similar to *Polypedates eques*. The nose projects far beyond the mouth; canthus rostralis angular, loreal region grooved, eye large, tympanum more than half as large as the eye. A narrow glandular fold runs from the back edge of the eye, above the tympanum, to the shoulder; upper parts and throat quite smooth; abdomen finely granular; lower side of the thigh with large white tubercles, those in a series below the anu; being largest. Fingers not webbed; disks of fingers broad, of toes moderate; second finger much shorter than fourth, which is nearly as long as the third. The membrane between the toes reaches to half the length of the fourth, and does not extend to the disks of the four others. The third and fifth toes are nearly equal in length; at the base of the first is a small tubercle. Heel with a skinny spur-like appendage. Above greenish olive, with darker bands across the limbs; sides of the head and body blackish, with a yellow band commencing on the tip of the nose, narrower before the eye and broader behind it; lower parts nearly uniform yellow, with a black edge round the lower jaw. Vent black.

We have received a single female specimen from Southern Ceylon; it is 60 millims. long, the length of hind limb being 95 millims.

POLYPEDATES CAVIROSTRIS. (Plate XXXIX. fig. 1.)

Similar in habit to *Polypedates reticulatus*. Head large and broad, snout short, canthus rostralis angular and arched, loreal region deeply concave. Eye of moderate size; tympanum distinct, ovate, one-third the width of the eye. Limbs of moderate length, the length of the body being equal to the distance between vent and heel. Fingers scarcely webbed, disks moderately developed; toes broadly webbed, the interdigital membrane extending to the disks of the third and fifth toes. A small moveable tubercle at the base of the first toe. Heel without spur, but the hind margin of the tarsus is fringed; a patch of pointed tubercles below the vent. Upper parts with very minute tubercles or granules symmetrically arranged; vomerine teeth on a very short prominence, situated at the inner anterior angles of the choanæ. Upper parts reddish olive, finely marbled with black on the sides and caudal region. Lower parts whitish, throat speckled with brown. Limbs with a few indistinct dark cross bands; *the hinder side of the thighs is not coloured.*

We have received one example from Southern Ceylon; it is 45 millims. long, the length of the hind limb being 77 millims.

POLYPEDATES RUFESCENS.

Fingers broadly webbed, the web between the two outer fingers

extending to the terminal disk; toes completely webbed, the web leaving only the disks free. Vomerine teeth in two short oblique series commencing from the anterior angles of the choanæ. Snout of moderate length, nearly as long as the eye, with the canthus rostralis obtuse. Tympanum distinct, half as large as the eye; upper parts of the head and sides of the body with very small tubercles. The length of the body is more than the distance between vent and heel. Upper parts brownish. A dark cross band between the eyes. Lower parts whitish.

A single specimen, 55 millims. long, was in a collection from West Africa; the length of the hind limb is 85 millims.

RAPPIA LAGOENSIS. (Plate XL. fig. 2.)

Similar in habit to *R. marmorata*. Head broad, snout short, tongue heart-shaped, tympanum hidden, the two outer fingers half, the toes three-fourths webbed. Smooth above, granulated below, Yellowish olive, coarsely reticulated with black above; a deep-black streak along the canthus rostralis. Exposed parts of the upper surface of the limbs irregularly spotted with black. Lower parts uniform whitish.

We have received two examples, one from a dealer, the other from H. T. Ussher, Esq., who found it at Lagos.

Length of the body 28 millims., of hind limb 49 millims.

HYLAMBATES VIRIDIS.

Uniform green above, white below, a few small brown spots on the sides; upper lip and hind part of the limbs with a white margin. Vomerine teeth in two small patches between the nostrils; tongue deeply notched behind; snout rather obtuse, depressed. Tympanum distinct, half as long as the eye. Disks well developed, fingers slightly webbed, toes one-third webbed, metatarsus with one rather large tubercle. Fourth finger considerably longer than second; fifth toe longer than third.

We have received one specimen; it is 42 millims. long, the length of the hind limb being 60 millims.

HYLODES SALLÆI. (Plate XXXVIII. fig. 3.)

Similar in habit to a young *Rana temporaria*. Snout of moderate length, somewhat pointed; canthus rostralis angular, loreal region subvertical, flattish. Eyes of moderate size, one-third larger than the tympanum. Tongue ovate, much narrower than the mouth, very slightly notched behind. The vomerine prominences are short and small, situated behind the choanæ; choanæ and eustachian tubes small. Skin smooth, with several exceedingly fine linear glandular folds—one from the eye above the tympanum to the shoulder, another from the eye to the centre of the back, and one or two on each side of the hinder part of the back. Lower parts nearly entirely smooth. The second and fourth fingers nearly equal in length, shorter than the third. The length of the body is

a little more than the distance between the vent and heel. The third and fifth toes equal in length; metatarsus with two small tubercles, tarsus without fold. Greyish olive, a black band runs from the nostril through the eye to behind the tympanum; an indistinct blackish band between the eyes; anal region blackish, sometimes a black spot in the centre of the back.

We possess two specimens, of nearly the same size—one received from Mexico through M. Sallé, and the other from Mr. Salvin's Vera-Paz collection. Length of body 28 millims., of hind limb 46 millims., of fourth toe (from metatarsus) 13 millims.

HYLA DASYNOTUS. (Plate XXXVIII. fig. 2.)

Habit slender; snout very short, depressed, obtuse in front, without canthus rostralis; loreal region concave. Vomerine teeth in two small groups between the inner nostrils, which are small. Tongue slightly notched behind, with a median groove. Eye large, prominent. Tympanum very small, indistinct. Disks moderately developed; fingers half webbed; toes nearly entirely webbed. A narrow white fringe along the forearm, and along the tarsus. The skin from the occiput along the spine to the sacral vertebra is immoveable and covered with warty excrescences; otherwise the head and body are smooth. The length of the body is rather more than the distance of the vent from the metatarsus. Brownish above, the warty parts of a darker colour; sides of the abdomen marbled with black and white. A black streak along the canthus rostralis and above the tympanum, a black spot anteriorly below the eye; a dark cross band between the eyes. Femur deep black, with white ovate spots or cross bars; fore limbs and lower legs with brown cross bands. Lower parts whitish, throat and especially gular sacs brown.

One male specimen, with a pair of large gular sacs, from Brazil; it is 32 millims. long, the hind limb being 44 millims.

HYLA RHODOPORUS. (Plate XXXVII. fig. 4.)

This species belongs to that group in which the vomerine teeth are placed in two curved series, forming together an arch with the convexity towards the front; however, the series are less distinctly curved than in the other species, this species being less developed in size than its natural allies. It is very closely allied to *H. albomarginata* or *H. infulata*. The snout is much depressed, with the canthus rostralis very obtuse, and the loreal region concave. Eye of moderate size, shorter than the snout. Choanæ wide. Tongue scarcely notched behind; tympanum two-thirds the size of the eye. Fingers very slightly webbed; toes two-thirds webbed. The length of the body equals the distance between vent and heel, and is thrice the length of the foot. Skin smooth, with numerous minute pores on the upper parts. Light olive-coloured, each pore with a minute rose-coloured dot; the dots confluent into spots on the eyelids; no band along the canthus rostralis or on the legs, the exposed parts of which are coloured like the back. Uniform whitish below.

One specimen was found by Mr. Bartlett on the Upper Amazons ; it is 38 millims. long, the length of the hind limb being 60 millims. Another example, from Surinam, appears to belong to the same species.

HYLA TRIANGULUM. (Plate XXXVIII. fig. 4.)

Similar in habit to *H. arborea*. Snout short, as long as the diameter of the eye, which is of moderate size. Canthus rostralis angular, loreal region flat. Vomerine teeth in two short groups between the choanæ, which are small. Tympanum hidden, pharyngeal tubes very narrow. Disks moderately developed ; fingers half webbed ; toes three-fourths webbed. Length of the body rather more than the distance between vent and heel. Back and exposed parts of the limbs brownish grey ; a triangular isosceles deep-black spot, edged with white, on the head and nape, one angle being on each eyelid, and the third behind the nape. Side of the head and body brown, lower parts whitish.

One specimen, 27 millims. long, probably from Brazil ; hind limb 42 millims.

HYLA RUBICUNDULA. (Plate XL. fig. 3.)

Hyla rubicundula, Rnhrdt. & Lütke. Vid. Medd. nat. Foren. Kjöbenh. 1862, p. 197 ; Hensel, Wieg. Arch. 1867, p. 158.

Slender ; snout moderately obtuse, with angular canthus rostralis, and with the loreal region subvertical. Eye of moderate size, nearly as long as the snout ; tympanum very small, distinct. Vomerine teeth in two small groups, situated immediately behind the level of the narrow choanæ. Tongue not notched. Vocal sac of the male extending to the sternum. Upper parts smooth. Fingers slightly but distinctly webbed ; toes half webbed. Disks of fingers and toes rather small. The length of the body is rather more than the distance between vent and heel. Light olive, with numerous parallel brown longitudinal bands on the body and limbs ; these bands proceed from the snout, are unequal in width, and more or less distinctly edged with white ; the broader of the bands are sometimes broken up in series of ovate spots. A blackish band, edged with white above and below, and longitudinally traversed by another white band, from the nostril to the loin.

Southern parts of Brazil.

HYLA LEUCOTÆNIA. (Plate XL. fig. 4.)

Moderately slender ; snout rather obtuse, with angular canthus rostralis, and with the loreal region subvertical. Eye of moderate size, not quite so long as snout ; tympanum very small, not very distinct. Vomerine teeth in two small groups, on a level with the hinder edge of the narrow choanæ. Tongue not notched. Male with a large vocal sac, extending backwards to the sternal region. Upper parts smooth. Fingers free, toes half webbed ; disks of fingers and toes rather small. The length of the body is rather

more than the distance between vent and heel. Light olive, a *white* inferiorly greyish line runs along the canthus rostralis and upper part of the side of the body. Lower leg with a whitish outer margin.

A male specimen from Rio Grande, 38 millims. long; hind limb 60 millims.

Distinguished from *H. rubicundula* by the white lateral line and sloping loreal region.

CALLULA GUTTULATA. (Plate XL. fig. 1.)

Megalophrys guttulata (Blyth).

Snout very short, depressed, and obtusely rounded. Skin entirely smooth, without any tubercles. Limbs short, the length of the body being a little more than the distance of the vent from the metatarsal shovel. None of the toes are dilated into disks; hind toes one-fourth webbed; fingers rather long; metatarsus with a flat, compressed, sharpish tubercle or shovel.

The eye is small, not longer than the snout; a very prominent osseous ridge across the vomer behind the choanæ, interrupted in the middle. Tympanum hidden.

This species is most beautifully coloured, the ground-colour of the upper parts being a pink or yellowish olive, coarsely marbled with brown, the brown marks being edged by a black line. A long transverse black mark across the vent and hinder surface of thighs. Lower parts uniform yellowish.

Several specimens were collected by Mr. Theobald in Pegu. The largest is 50 millims. long; hind limb 63 millims.

EXPLANATION OF PLATES XXXVII., XXXVIII., XXXIX., XL.

PLATE XXXVII.

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| Fig. 1. <i>Cystignathus rhodomotus</i> , p. 481. | Fig. 3. <i>Ixalus opisthorrhodus</i> , p. 484. |
| 2. <i>Bufo glaberrimus</i> , p. 483. | 4. <i>Hyla rhodoporus</i> , p. 488. |

PLATE XXXVIII.

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| Fig. 1. <i>Glyphoglossus molossus</i> , p. 483. | Fig. 4. <i>Hyla triangulum</i> , p. 489. |
| 2. <i>Hyla dusymotus</i> , 488. | 5. <i>Cucotus maculatus</i> , p. 482. |
| 3. <i>Hylodes sallee</i> , p. 487. | |

PLATE XXXIX.

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| Fig. 1. <i>Polypedates cavirostris</i> , p. 486. | Fig. 3. <i>Polypedates nanus</i> , p. 485. |
| 2. <i>Polypedates nasutus</i> , p. 486. | 4. <i>Ixalus macropus</i> , p. 484. |

PLATE XL.

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| Fig. 1. <i>Callula guttulata</i> , p. 490. | Fig. 3. <i>Hyla rubicundula</i> , p. 489. |
| 2. <i>Rappia lagoensis</i> , p. 487. | 4. <i>Hyla leucotenis</i> , p. 489. |